MELANOMAS OF CHILDHOOD *

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It has become apparent over a period of years that even when a histologic diagnosis of malignant melanoma has been made in children the clinical behavior rarely has been that of a malignant tumor. The disparity in behavior of the melanomas of adults and children, despite the histologic similarity of the lesions occurring in the different age groups, is obviously a matter of fundamental importance and the following questions immediately arise: Does the histologically malignant melanoma of children differ in any structural detail from that of adults? Can the clinical behavior of these lesions be predicted from their histologic structure? What, if any, are the factors known to influence the clinical behavior? Should the melanomas of children be treated any differently from the melanomas of adults?

MATERIAL

In a search of the files of the Memorial Hospital for instances of malignant melanoma in children, it soon became apparent that the diagnosis had been made with far greater frequency 20 or more years ago than in the past decade. This difference was quickly accounted for in the usual structure of the benign pigmented nevi of children as contrasted with that of the benign nevi of adults. In more recent years, the criteria for the diagnosis of malignant melanoma had become clarified to the extent that histologic features of the nevus of childhood, formerly regarded as stigmata of malignant change, were no longer so considered. However, there remained a group of cases in which a diagnosis of malignant melanoma seemed histologically sound. Over a period of years, the qualification has been added to reports of such lesions that they probably would not behave as malignant tumors. In order to distinguish these lesions both from the malignant melanoma of adults and the unequivocally benign nevus of childhood, the term "juvenile melanoma" has been adopted. The term "melanoma" in this paper, as in common usage, has been applied only as an abbreviation for malignant melanoma.

The material for this study is comprised of 13 cases † diagnosed histologically as juvenile melanoma during the past 13 years and occurring in children ranging in age from 18 months to 12 years. For

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purposes of comparison, a group of melanomas occurring in young adults of from 14 to 19 years of age also was reviewed. In addition, 50 consecutive cases of benign nevus occurring in children ranging in age from 1 month to 12 years were included in the comparative study. Blue nevi (Jadassohn) and Mongolian spots were not included in this study since they form a recognizable entity usually easily segregated from malignant melanomas both in histologic appearance and in their generally benign clinical behavior.

Hematoxylin and eosin preparations of all lesions were available for study; in some instances silver stains and Masson's trichrome preparation also were used.

Clinical Features

In the group of childhood melanomas (juvenile melanomas) there were 5 males and 8 females. Three were less than 2 years of age; one was 3 years of age; one, 5 years old; and the remaining 8 patients ranged in age from 8 to 12 years. The clinical appearance was varied: 10 of the 13 patients had lesions under 1 cm. in diameter and only 3 lesions were between 1 and 3 cm. In a few, the lesions were described as being smooth with sharply delimited edges, but in the majority they were verrucous with irregular margins (Figs. 1 to 4). All were elevated above the skin surface. The color was described as pink to red in 5 whereas 7 varied from brown to black. One lesion was said to have been subcutaneous. None was described as hairy.

The lesions had been noted for the duration of life in 6 cases but were said to have existed for from 6 weeks to 4 years in 7 cases. Three of the patients were presented for treatment within 1 year of the first appearance of the lesion. There was a history of gradual increase in size in all cases except one in which there was rapid growth for 6 weeks only.

Five of the lesions occurred on the face, one on the trunk, 2 on the upper extremity, and 5 on the lower extremity; only one of the latter category occurred on the sole. The parents of all these children stated that the lesions were in locations where they were frequently traumatized during the course of daily activities but none gave a history of frequent bleeding and none of the lesions was grossly ulcerated at the time of examination. Treatment consisted only of local surgical excision in all cases; in one case a group of obviously metastatic nodes was later removed from the groin.

All but one of the 13 children are alive and have shown no evidence of recurrence either locally or in drainage sites. They have been fol-

lowed clinically for periods up to 13 years. Only 2, both female, have been followed for as short a time as 3 years and both of these have now passed their menarche. The remaining 10 have been seen regularly for from 5 to 13 years; 6 of these have passed the age of puberty.

One of the 13 cases had been clinically malignant and the child is dead. This one fatality occurred in a female child whose lesion was first noted at the age of 12 years; there had been no development of secondary sex characteristics and she had not menstruated. This lesion occurred on the sole of the foot but was not described as involving the skin. After rapid growth over a period of 6 weeks, a soft white tumor, 2 cm. in diameter, was resected from the plantar fascia. One month after the initial excision there was a bulky local recurrence, thrombosis of the femoral vein, and metastasis to inguinal lymph nodes. Within 4 months the child was dead of generalized metastases.

Histologic Features

The epidermis was present in the sections studied in 12 of the 13 cases and was in all instances altered in a characteristic manner. Frequently there was hyperkeratosis and occasionally patchy parakeratosis. The epidermis immediately over the bulk of the tumor often was acanthotic and showed spongiosis, sometimes to so marked a degree that small intra-epidermal vesicles were present. There was superficial ulceration of the epidermis of 2 of the lesions; neither of these was malignant clinically. The rete pegs in 7 of the lesions were irregularly elongated and extended rather deep into the dermal tumor.

The most distinctive feature of the epidermal change was found in the basal layer, which was not uniformly palisaded as in the normal skin. The continuity of the basal layer was interrupted by scattered cells or groups of cells which were irregularly enlarged and distended by uniform fine brown granules. Similar isolated cells also were occasionally scattered irregularly in the acanthotic malpighian layer. These enlarged pigmented cells often were increased twice or more in size over normal basal cells; the nuclei were of varied size but were mainly large and vesicular. There was a loss of cohesion between these altered cells and the adjacent cells of the epidermis. This change, often referred to as the junctional or dermo-epidermal change, occurred diffusely over the entire surface of the tumor, but often there was added to the diffuse change a more distinctive alteration in which islands of large pigmented cells formed bulbous knobs and pegs which extended down into the dermis (Figs. 5 and 6). In places, the extensions from the epidermis seemed to be bounded by an intact basement membrane,

but in all lesions it was possible to trace direct continuity between them and the cells forming the dermal portion of the tumor.

Nine of the 13 cases presented a histologic appearance which in most respects was indistinguishable from the adult type of malignant melanoma. In 3 of these the lesions were relatively superficial and had infiltrated only to the level of the mid-dermis; in 6 there was infiltration through the entire dermis. The structure varied not only in the different lesions but also in any one lesion. The large cells distended with fine pigment, described in the epidermis, formed long projections into the dermis. These cells at times assumed a definite spindle shape in the infiltrating portion of the tumor. In several there were compact clusters of spindle cells, but this structure was predominant in only one case of this series, that is, the one fatal case. In the remainder, spindle cells were interspersed among large acidophilic cells which more often formed the bulk of the tumor. These cells were varied in size but were always large, rounded or polygonal, with vesicular nuclei and large acidophilic nucleoli (Fig. 5). There was either alveolar or perivascular arrangement of the cells.

In one feature alone some of these lesions were distinctly different from the malignant melanoma of adults. In 8 of the 9 cases just described, giant cells were present both in the epidermal and dermal portion of the tumor (Figs. 7 and 8). In 5 cases there were small to moderate numbers of these cells, but in 3 cases giant cells were present in such large numbers as to constitute the most outstanding feature of the lesion. These giant cells were totally unlike those formed by fused nuclei seen so commonly in the benign nevus. They were most prominent in the basal layer of the epidermis or in the superficial part of the dermal tumor and were either multinuclear or mononuclear. In the multinucleate cells the number of nuclei varied from four to six; generally they were in peripheral arrangement but occasionally were clumped in the center of the cells. The cytoplasm was acidophilic and sometimes granular. Pigment was seldom seen in the giant cells but commonly they contained vacuoles suggesting fat. Most of the giant cells were round or oval but often there were stellate cytoplasmic processes, particularly in those connected with the epidermis (Fig. 8). Silver stains have failed to show argyrophilic processes on these or other cells of the tumor; nor do trichrome stains indicate that they have origin in muscle.

In 3 cases, the dermal portion of the tumor was composed entirely of spindle cells, different principally from those described above in the large cytoplasmic content of the cells and the rather orderly inter-

lacing bundles of cells (Fig. 9). This structure bore strong resemblance to epidermoid carcinoma, particularly of the spindle cell type. The junctional change so constant a feature of the entire series also was present in this part of the group.

One case was especially different from the other 12. A 10-year-old boy had a black lesion on the lip, present since birth. He has been followed for 7 years and there has been no recurrence. This lesion had essentially the structure of a simple benign intradermal nevus with clusters and strands of cells extending into the subcutaneous fat. The distinctive feature was the almost uniform enlargement of each cell to a diameter three or four times that of an ordinary nevus cell. The increase in size was primarily in the amount of cytoplasm, which was peppered with fine melanin granules. The nuclei also were enlarged and hyperchromatic, but irregularly so. There were acidophilic nuclear inclusions which far outnumbered those in other lesions of this series. At the periphery of only three other lesions of this series were there cords and nests of small round tumor cells.

Mitotic figures were not prominent in any of these lesions but occasionally could be identified without any great difficulty both in the epidermal and dermal portions of the tumors.

Pigment was present in all of the lesions but only 3 were heavily pigmented. Melanin was far more prominent in the enlarged cells at the dermo-epidermal junction than in the other portions of the tumor but was present also in scattered tumor cells of the dermis, in the malpighian layer of the epidermis, in the parakeratotic scales and vesicles, and in the dermal chromatophores (Fig. 6). The differences in color noted clinically could not be correlated with differences in pigment content. Actually 2 of the most pigmented lesions were clinically red. The color variations were most easily accounted for on the basis of the vascularity of the tumor; that is, those that were red showed greater vascularity rather than less pigment.

The cutaneous appendages often remained intact in the tumor. The basal layer of the hair follicles participated in the junctional change which occurred in the epidermis, but to a lesser degree. The sebaceous and sweat glands were not altered except by distortion due probably to pressure of the surrounding tumor.

Associated with juvenile melanomas were inflammatory changes consisting in a few cases simply of a sparse infiltrate of lymphocytes and plasma cells at the periphery of the lesion. In other lesions the infiltrate was more intense and involved the tumor itself as well as the tissues surrounding the tumor. In 2 cases in which vesiculation and

ulceration of the epidermis were noted there were also polymorphonuclear neutrophils and eosinophils in the infiltrate.

In most of the tumors there was diffuse edema involving not only the epidermis but also the dermis, particularly the papillary layer. In places there seemed to be an almost complete dissolution of the basal layer and the tumor cells appeared to be floating in the edema fluid of the dermis. The capillaries of the papillary layer were dilated and engorged. The lymphatics of the dermis were also dilated, particularly at the dermo-epidermal junction.

Differentiation of Juvenile Melanoma from Benign Nevus of Childhood

The histologic sections of 50 unselected benign nevi of children were studied for purposes of comparison with juvenile melanoma. These nevi were removed chiefly for cosmetic reasons from children ranging from 1 month to 12 years of age, occurred in the skin in almost all regions of the body, and ranged from very small macules to large lesions that covered almost the entire trunk. All of these children are alive and none has shown recurrence over periods up to 7 years.

The ratio of incidence of juvenile melanoma and of the ordinary benign nevi of childhood is difficult to determine inasmuch as usually only the nevi of unusual clinical appearance are removed. However, an approximation of the relative incidence may be gathered from the fact that over a period of about 6 years 100 pigmented nevi of children were removed surgically; of these there were 8 juvenile melanomas, or a ratio of 1:12.

In contrast to the pleomorphic structure encountered in the group of juvenile melanomas, the benign nevi of childhood were monotonously alike, in most instances, in their histologic structure. The epidermis covering the nevus was generally thin but showed segments of acanthosis. There was increased pigmentation in all layers but the pigment was most concentrated in the basal layer. In 49 of the 50 lesions (98 per cent) there were scattered, somewhat enlarged, pigmented cells in the basal layer singly as well as in nests (Fig. 10) which extended into the dermis. The projecting nests were sometimes still bounded by a compressed rim of basal cells. One of the 50 lesions showed no alteration of the epidermis overlying the nevus.

As a rule, the benign nevus of children was far more cellular than the ordinary nevus of adults. The upper segments of the nevus were crowded with closely packed pigmented nevus cells which were of uniform size and shape; in the lower segments of the tumor there was

gradual diminution in the amount of pigment and in the size and number of cells, as well as increase in fibrous tissue. The deeper segments of the benign nevus in children were often composed of delicate strands of small nonpigmented cells surrounded by large collagenous bands. It also was noted that the structures resembling Meissner's corpuscles (lames foliacées), so commonly found in adult nevi, were practically absent in this series.

There are, then, definite cellular features of distinction between the juvenile melanoma and the ordinary benign nevus of children: (1) The pleomorphic structure of the juvenile melanoma is in contrast to the monotonous structure of the benign nevus of children; (2) In juvenile melanoma there are bizarre mononuclear or multinuclear giant cells totally unlike those formed by fused nuclei in the benign nevus; (3) The junctional change so prominent in the benign nevus is comprised of cells which are uniform, small, and closely packed whereas in the juvenile melanoma these cells are pleomorphic, larger, and form looser projections in the dermis; (4) Mitotic figures, occasionally seen in the juvenile melanoma, are rare in the ordinary nevus.

While the details of the problems of the morphogenesis of nevi are beyond the scope of this paper, certain features of differentiation between benign nevi of children and the corresponding lesion of adults are worth noting. There appears to be a remarkable difference in the incidence of junctional change in the nevi of the two age groups. This alteration was present in 98 per cent of the children included in this study and is in contrast to the reports of Allen[1] of 12 per cent and of Montgomery and Kernohan [2] of 25 per cent in their studies of adults. The pronounced cellularity in the nevi of childhood has led to the erroneous diagnosis of malignant melanoma just as the cellularity of hemangiomas of infancy has led to the diagnosis of angiosarcoma by those not familiar with the natural evolution of these lesions.

Differentiation of Juvenile Melanomas from Adult Melanomas

In view of the radical contrast in behavior between juvenile and adult melanomas, it seemed of interest to determine the life history and possible histologic variations of melanomas occurring in an intermediate age group. Accordingly, a series of 17 melanomas occurring in patients ranging in age from 14 to 19 years was used for comparative study. In this group there were 5 males and 12 females. Three of the lesions occured on the face or neck; 5 on the trunk; 2 on the upper extremity, and 7 on the lower extremity (none on the sole). There was a history in all that the lesions had been growing for from 1 to 2 years

before local excision; some of these lesions had been present for a lifetime. All of the female patients had undergone menarche from 3 months to 4 years before the removal of the tumor. In several of the females there was a definite history that the pigmented cutaneous lesion had increased two to three times in size since the onset of menstruation which had occurred only 3 to 4 months prior to the removal of the tumor.

In the group of 13 "juvenile melanomas," only one patient is dead (7.7 per cent) whereas in a similar group of melanomas of 17 young adults, 12 are dead (71 per cent), the fatalities having occurred within 6 to 18 months after the initial diagnosis. An analysis of the 5 living patients reveals one with metastasis that has survived for 4 years. Four (23.5 per cent) have survived for periods of 5, 9, 11, and 17 years, respectively. The average 5-year survival for adults of all ages, as determined recently in a series of 595 cases,[3] is 9.7 per cent. There is at least a suggestion in these figures, obviously in need of confirmation by a larger series, that perhaps melanomas occurring even in an intermediate age group carry a more favorable prognosis than those occurring at a later age.

In the fatal cases, ranging from 14 to 19 years, the variations in structure were so great that it was not considered possible to correlate prognosis with histologic appearance. However, several features of this group bear noting. In only one of the adults (Fig. 11) were there giant cells of the type that were identified in approximately one-half the group of juvenile melanomas. This patient has now survived for 5 years. Similar cells have been noted occasionally in adult nevi (not included in this study).

Although there was some tendency toward less pigmentation in the juvenile melanomas, this feature was too inconstant to be of diagnostic or prognostic significance. Mitotic figures were more numerous in the melanomas of the intermediate age group but they were present sufficiently often in the juvenile melanomas to make this latter lesion a definite exception to the rule that mitotic figures in nevi are evidence of malignant melanoma.

A generally appreciated feature that was again demonstrated was the lack of correlation between the depth of the local cutaneous infiltration of the lesions and the ultimate outcome. The lesions in several of the fatal cases of young adults were extremely superficial and some had a qualitative histologic appearance far less malignant than many of the nonfatal juvenile melanomas.

In general, it was concluded that differentiation histologically between the juvenile and adult melanomas could not be made with certainty in most cases. The one feature, found in almost one-half the cases of juvenile melanoma, that seemed to permit a histologic distinction from adult melanoma, was the presence of giant cells (Figs. 7 and 8). In view of the survival of patients having this type of tumor, these have been regarded as an indication that the lesion is benign. This is so despite the fact that, except for the giant cells, such lesions have all the histologic criteria for the diagnosis of malignant melanoma.

Incidence of Melanomas in Childhood

Contrary to the general impression of the frequency of occurrence of malignant melanoma in children, a review of the recent medical literature reveals very few reports substantiated either histologically or by fatal outcome. Wells [4] stated that "Although pigmented moles are frequently present at birth, they rarely become malignant before birth or even in infancy." He accepted only the case of Coe [5] as a true congenital melanoma; this lesion occurred on the scalp of a newborn infant, grew rapidly, metastasized to nodes, and caused death in 4 months. Milian, Périn, and Brunel [6] reported an instance of melanoma occurring in the parietotemporal region of the male, 12 years of age, but neither photomicrographic evidence nor follow-up data are presented as corroboration of the diagnosis. The case of Périn and Blaire,[7] occuring on the cheek of a child, 3 years of age, appears histologically to have been melanoma but the child died of bronchopneumonia following whooping cough 7 months after the initial excision of the lesion so that clinical evidence of its malignant course is lacking.

Sweet and Connerty [8] have reported a bulky tumor replacing the genitalia in an infant that also had a bathing trunk nevus; this child died shortly after birth and had hepatic and pontine metastases. The pontine lesion was heavily pigmented and the authors felt that the logical diagnosis was probably malignant melanoma. The recent report of Russo [9] in which osseous metastases are described in 2 children, 5 weeks and 3 years of age, is not substantiated by photographic proof of the diagnosis, and the possibility comes to mind that these 2 cases might represent neuroblastomas rather than melanomas. The lesion in his third case, occurring in a Negro female, 5 years old, might well be a melanoma but this child has been well for 3 years after the excision of the tumor.

Webster, Stevenson, and Stout,[10] however, mentioned 10 cases of

histologic melanoma which occurred in children under the age of 10 years. Only 2 cases are detailed specifically in their paper but neither is recorded as having been fatal. The outcome of the other cases is not stated but the authors do mention that lesions in children giving the histologic appearance of malignant melanoma rarely metastasize.

Callender, Wilder, and Ash,[11] in a review of 1600 ocular melanomas, recorded only 2 instances in patients from 0 to 9 years and 13 from 10 to 19 years. Although their follow-up data are admittedly incomplete, the youngest patient to die in their series was 19 years of age.

In the current study, the histologic diagnosis of juvenile melanoma has been made in 13 cases while only one of these has been clinically malignant. This one fatal case, occurring in a 12-year-old girl, was distinctly different histologically as well as clinically from the group as a whole. The tumor was composed entirely of nonpigmented spindle cells and involved primarily the plantar fascia (Fig. 12). Unfortunately, a section of overlying skin was not submitted with the primary tumor, but the metastatic lesions in inguinal lymph nodes were of the pleomorphic structure generally encountered in melanomas.

A case which was both clinically and histologically malignant recently was submitted to this laboratory by Dr. Bjarne Pearson of the Department of Pathology of the University of Vermont. This lesion occurred in a 9-year-old female child who was normally developed and showed no precocious sexual features. The pigmented lesion on the knee was only 4 mm. in diameter at the time of removal and, while it had been present for several years, growth had occurred over a period of only a few weeks. The cells of the primary lesion in this instance contained large, irregular, hyperchromatic nuclei with prominent vacuoles and acidophilic inclusions which would justify the diagnosis of malignant melanoma, regardless of the age (Fig. 13). Bilaterally, the inguinal nodes showed a few clusters of metastatic cells in the peripheral sinuses. Although the follow-up in this child has been only for a period of 6 months and it is not possible to predict the outcome, it has been noted that generalized dissemination of the tumor has become evident in the fatal cases of young adults and in the one fatal case among the children within a very short time after the diagnosis has been made. It seems possible, however, that in some cases metastases to regional nodes in children need not always indicate a fatal termination. This peculiarity of melanomas in children would seem to be indicated by the case included in the report of Webster, Stevenson, and Stout[10]; this child, 8 years old, after local excision of

a black lesion on the shoulder and subsequent metastases both to skin and cervical lymph nodes which were resected, had survived at least 12 years without further recurrence.

Factors Influencing Clinical Behavior of Juvenile Melanomas

Inasmuch as there is a lack of constant morphologic evidence with which to explain the usually benign clinical behavior of histologically malignant melanoma occurring in childhood, an explanation based on sex-linked hormonal control would seem logically feasible. The peak of incidence of malignant melanoma occurs between the age of 40 and 60 years. Despite the fact that both cutaneous and ocular melanomas are relatively uncommon in younger age groups, there is too sharp a rise in mortality once the age of puberty is passed to be attributable to a general increase in incidence of cancer with age.

There is, moreover, in our experience, frequent recurrence of the clinical information that the growth of pre-existing nevi is greatly accelerated at the time of, or shortly after, puberty. At times these cases will follow a rapidly fatal course out of all proportion to the morphologic appearance of the lesion (Fig. 14). Two cases of malignant melanoma[5,8] have been reported in the newborn in which ante-natal metastases have occurred; a variety of hormonal influences exist during this period which do not ordinarily obtain thereafter. There is some evidence[10] that even though metastasis may occur in childhood, an inhibitory factor may exist before puberty to hinder either further dissemination or reception of metastatic cells by the viscera. Presumptive though this evidence may be, an intensive investigation of the possible influence of sex-linked hormonal alterations on the activation of melanoma seems mandatory.

Summary and Conclusions

Of 13 cases of juvenile melanoma in this series, only one (7.7 per cent) has had a clinically malignant and fatal course despite the similarity of the juvenile lesions to the malignant melanoma of adults.

The juvenile melanoma may be distinguished histologically from adult melanoma in about one-half the cases by the presence of giant cells in the former which seldom occur in the latter.

There is a precipitous rise in the capacity of melanomas to metastasize after puberty despite the histologic similarity to the usually non-metastasizing juvenile melanoma.

The possible influence of sex-linked hormonal activation of the growth capacity of melanomas at the age of puberty seems a logical conclusion.

Accordingly, since metastases from juvenile melanomas occur only rarely, conservative surgery, rather than the radical surgery usually indicated for adult melanomas, seems justified.

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DESCRIPTION OF PLATES

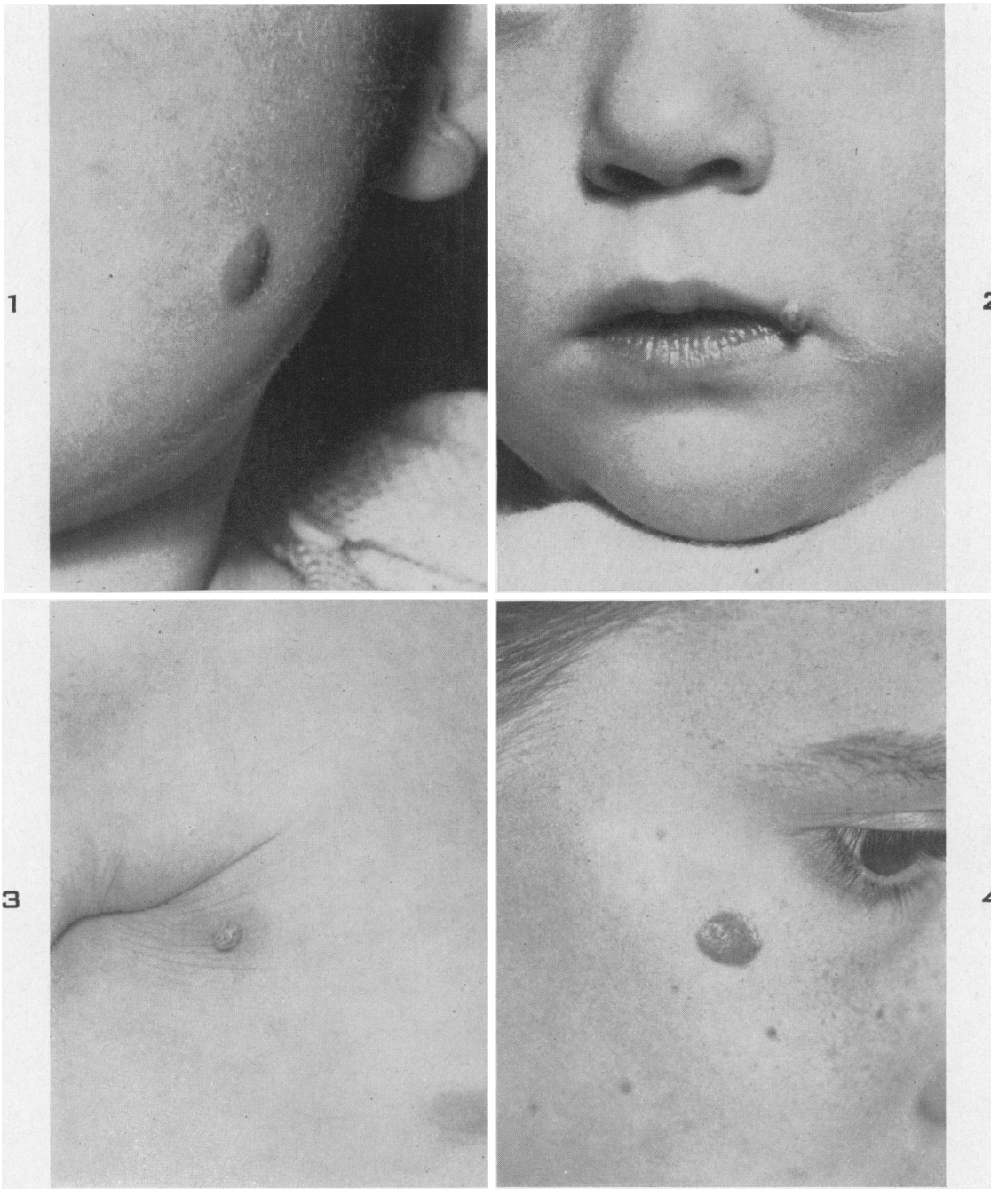
PLATE 107

FIG. 1. Male, 20 months of age. Smooth red lesion on cheek present since birth.

FIG. 2. Female, 20 months old. Smooth black lesion on lip noted for 2 months.

FIG. 3. Male, 5 years old. Verrucous brown lesion on chest present for 6 weeks.

FIG. 4. Female, 4 years of age. Rough black lesion on cheek noted for 1 year.



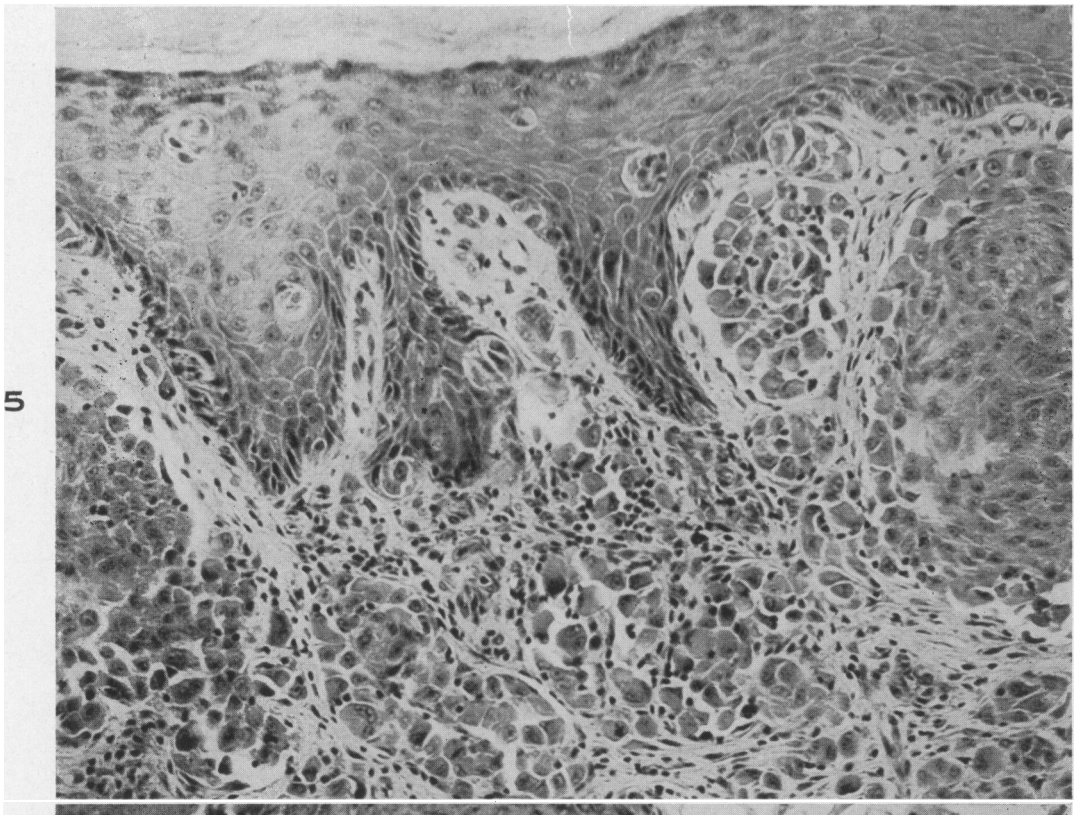
Spitz

Melanomas of Childhood

PLATE 108

FIG. 5. Junctional alteration overlying juvenile melanoma formed by large pleomorphic acidophilic cells. Hematoxylin and eosin stain. × 220.

FIG. 6. Heavily pigmented tumor on the thigh of an 11-year-old female, showing junctional alteration and pleomorphic infiltrating tumor. Hematoxylin and eosin stain. × 180.



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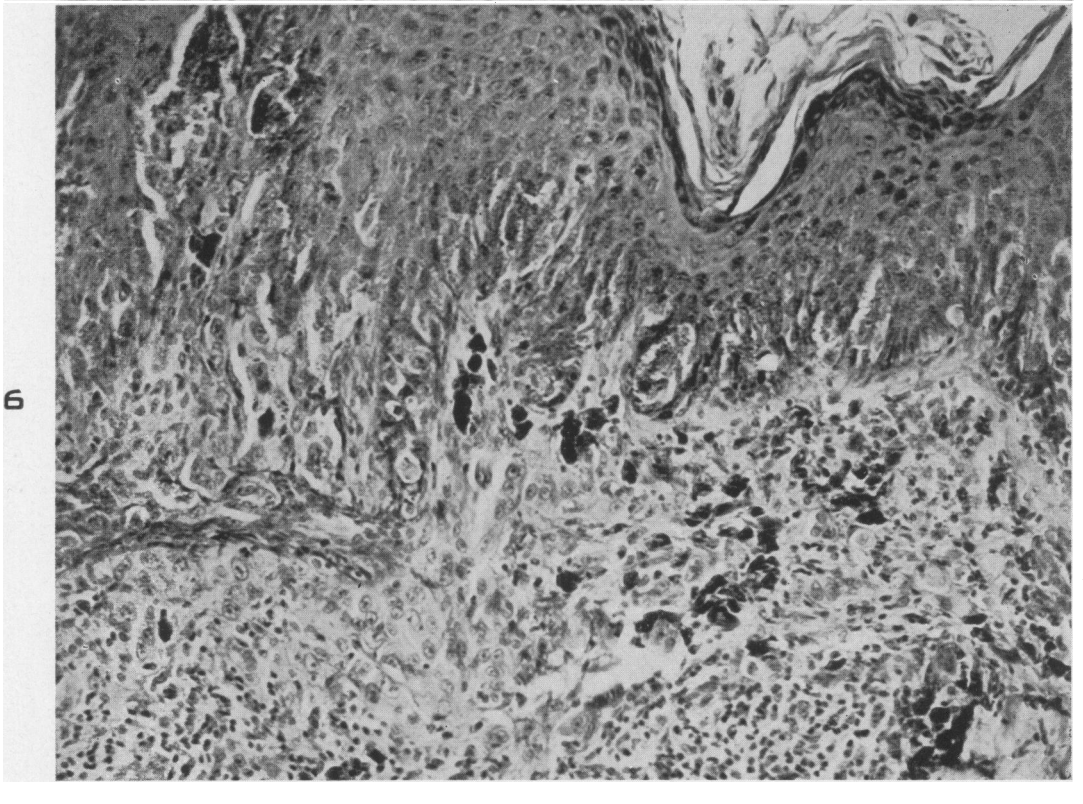

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Spitz Melanomas of Childhood

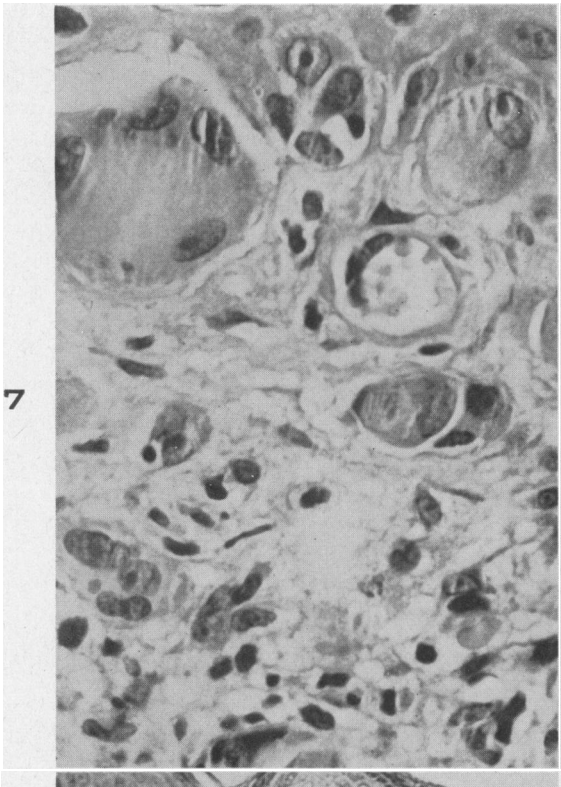
PLATE 109

FIG. 7. Giant cells at dermo-epidermal junction and upper dermis. Hematoxylin and eosin stain. × 550.

FIG. 8. Giant cells in the infiltrating portion of a juvenile melanoma. Hematoxylin and eosin stain. × 550.

FIG. 9. Predominantly spindle cell tumor in a male, 20 months old. (From the same case as Fig. 1.) Hematoxylin and eosin stain. × 180.

FIG. 10. Benign nevus in a child, 9 months of age. Hematoxylin and eosin stain. × 180.



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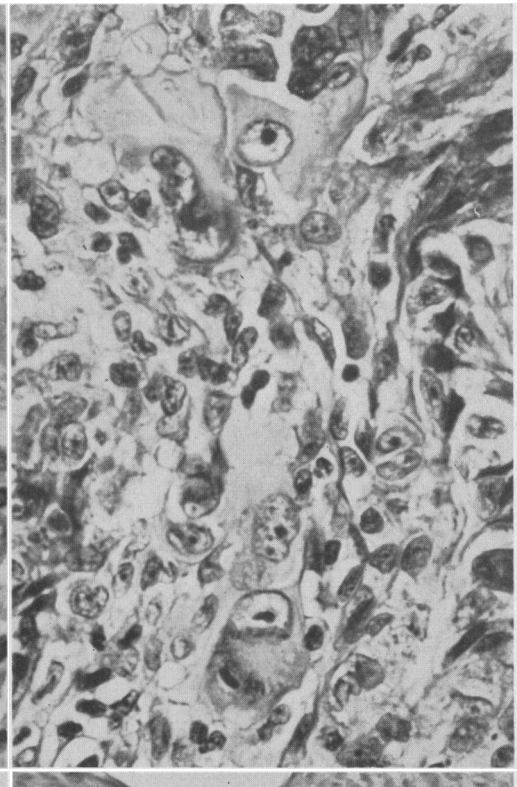

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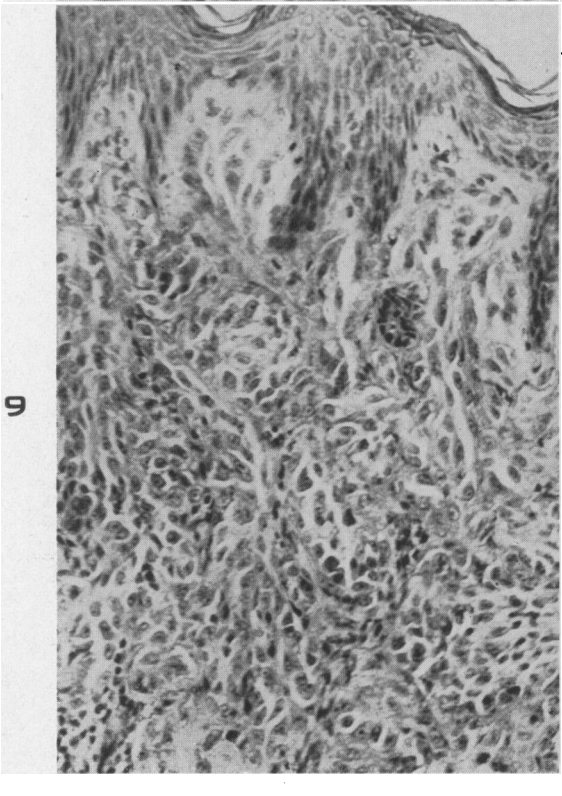

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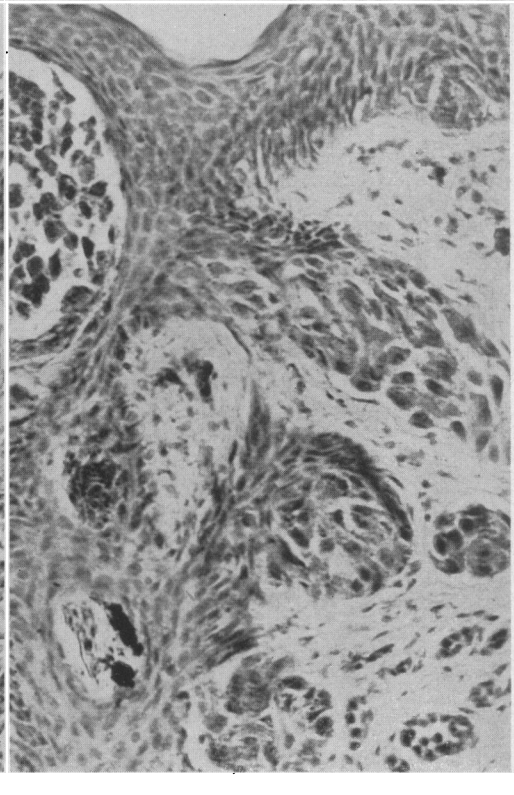

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Spitz

Melanomas of Childhood

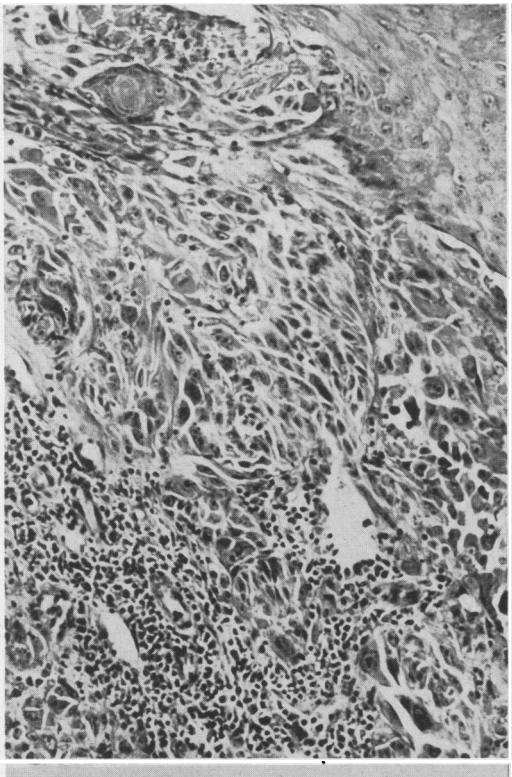
PLATE 110

FIG. 11. Persistent giant cells in a melanoma of a female, 17 years old. Survival now 5 years. Hematoxylin and eosin stain. × 220.

FIG. 12. Spindle cell structure in a fatal case of juvenile melanoma (female, 12 years old; death 4 months after local excision). Hematoxylin and eosin stain. × 180.

FIG. 13. Pleomorphic structure of a clinically malignant juvenile melanoma (case of Dr. Bjarne Pearson). Epidermis in this field has been destroyed by cautery. Hematoxylin and eosin stain. × 180.

FIG. 14. Rapidly fatal malignant melanoma in a male, 14 years of age. Hematoxylin and eosin stain. × 160.



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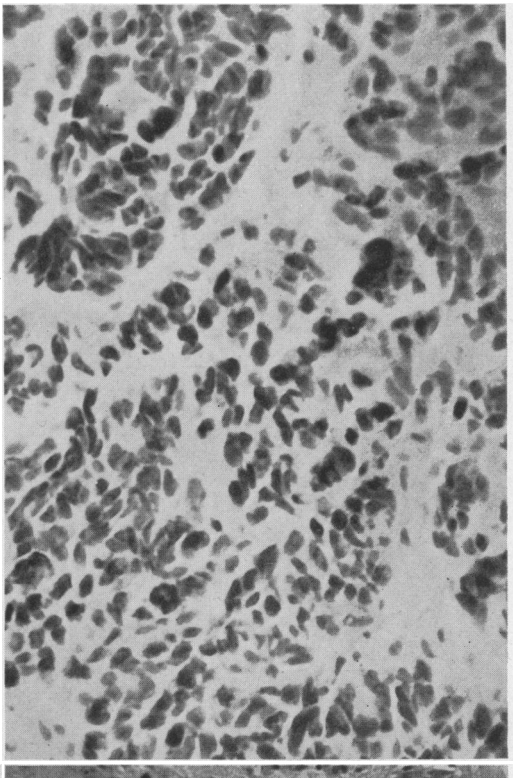

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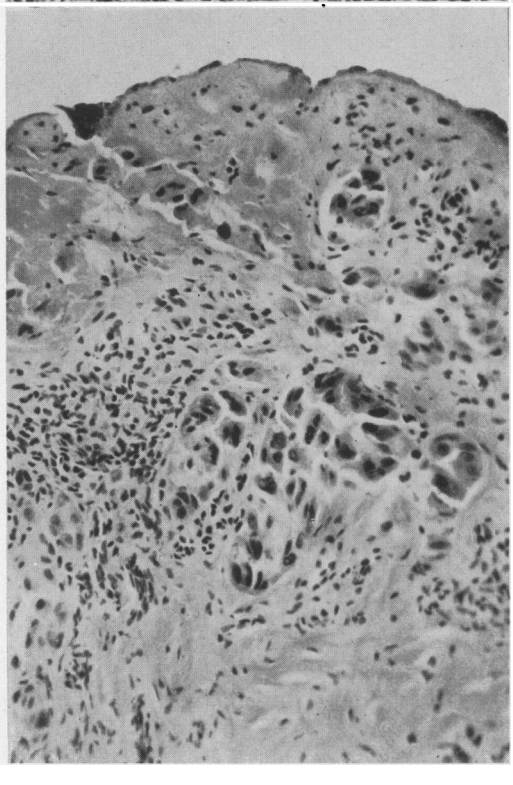

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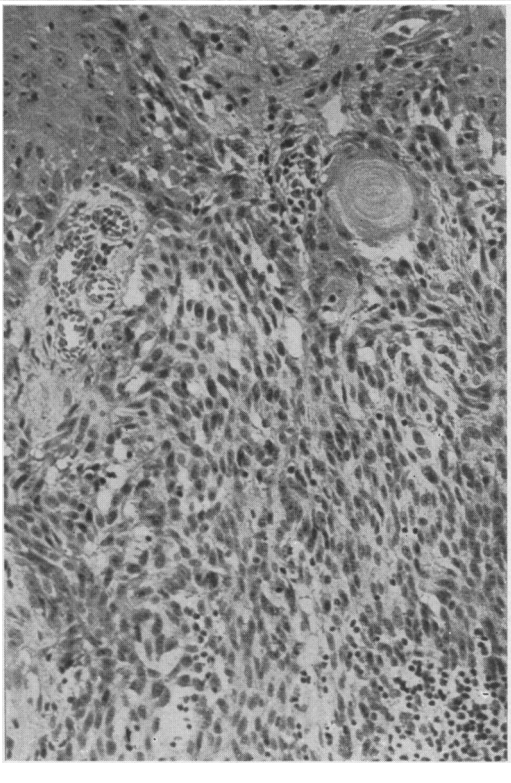

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Spitz Melanomas of Childhood